

## REMARKS

### Claim Objection

The Examiner objected to claim 45 because a few informalities. Applicant has amended claim 45 to correct the informalities, and respectfully requests withdrawal of the objections to claim 45.

### Rejections Based on Prior Art

The Examiner relied on four references as the basis for prior art rejections, including *Semiconductor Group Package Outlines: Reference Guide*, Publication 1995 by Texas Instruments (plastic ball grid array drawings). The Reference Guide was made of record in Applicant's IDS of May 24, 2002, and was included in the IDS because it was cited in the Trade Commission decision – see paper filed November 7, 2001. Applicant is not aware that any proof has been provided that the Reference Guide qualifies as prior art. Applicant requests that the Examiner withdraws the Reference Guide as prior art against Applicant's application until it can be established that the Reference Guide does qualify as prior art, i.e., that it was published before the invention date of Applicant's application.

### 35 U.S.C. § 102 Rejections

The Examiner has rejected claims 17, 18, 20-22, 24, 25, 30, 31, 33, 34, 37, and 38 under 35 U.S.C. § 102(e) as being anticipated by Rostoker, et al. (claims 20, 24,

33, and 38 have been cancelled). The remaining claims include independent claims 17 and 30. Applicant has amended claims 17 and 30 and respectfully submits that these claims, as amended, are not anticipated by Rostoker.

Rostoker discloses a ball grid array having solder balls 520<sub>d</sub> and <sub>e</sub> in a central region, and solder balls 520<sub>c</sub> and <sub>a</sub> in an outer region. The solder balls 520<sub>d</sub> and <sub>e</sub> are spaced from one another by half the distance between the solder balls 520<sub>c</sub> and <sub>d</sub>. The solder balls 520<sub>a</sub> and <sub>c</sub> are spaced the same distance as the solder balls 520<sub>c</sub> and <sub>d</sub>. The solder balls 520<sub>a</sub> and <sub>c</sub> are thus not spaced a smaller distance than the solder balls 520<sub>c</sub> and <sub>d</sub>.

Claim 17 now specifically includes the limitation that the contacts in the second, outer region are spaced a smaller distance than the distance between the first, inner region and the second, outer region. Claim 17 thus includes at least one limitation not disclosed in Rostoker. Applicant, accordingly, respectfully submits that claim 17 is not anticipated by Rostoker.

Claim 30 now includes a similar limitation as the limitation added to claim 17, namely that the smallest distance between adjacent contacts in the outer region is smaller than the distance between the distance between the inner and outer regions. Claim 30 thus also includes one limitation not disclosed in Rostoker.

Claims 18, 21-22, 25, 31, 34, and 37 depend from either claim 17 or claim 30 and should be allowable for at least the same reasons as claims 17 and 30. Applicant, accordingly, respectfully requests withdrawal of the rejections of

claims 17, 18, 21-22, 25, 30, 31, 34, and 37 under 35 U.S.C. § 102(e) as being anticipated by Rostoker.

The Examiner rejected claims 45-48, 50, and 51 under 35 U.S.C. § 102(e) as being anticipated by Suyama. This includes independent claim 45. Applicant submits that claim 45, as amended, is not anticipated by Suyama.

Suyama discloses outer contacts 5 and inner contacts 6. The inner contacts 6 are in a 2-by-2 array. Suyama does not disclose or suggest that the inner contacts 6 can be in a four-by-four array.

Claim 45 includes the limitation that the center array of contact pads are arranged in a four-by-four array. Claim 45 thus includes at least one limitation not disclosed in Suyama. Applicant therefore submits that claim 45 is not anticipated by Suyama. Claims 46-48, 50, and 51 depend from claim 45, and should be allowable for at least the same reasons as claim 45. Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 45-48, 50, and 51 under 35 U.S.C. § 102(e) as being anticipated by Suyama.

The Examiner rejected claims 17, 18, 20-25, 29, 45, 47, 49, and 50 under 35 U.S.C. § 102(b) as being anticipated by the Reference Guide (claims 20, 24, and 29 have been cancelled). As previously stated, Applicant believes that the Reference Guide does not qualify as prior art, and respectfully requests that any rejections based on the Reference Guide be withdrawn.

The Examiner rejected claims 17, 18, 20-22, 24-27, 30, 33-35, 37, and 38 under 35 U.S.C. § 102(b) as being anticipated by Electronic Design (claims 20, 24, 33, and 38 have been cancelled). This includes independent claims 17 and 30. Applicant submits that these claims, as amended, are not anticipated by Electronic Design.

As stated in Electronic Design on Page 142, the full paragraph in column 2: "A small matrix of solder balls is located in the center for applications requiring improved thermal dissipation." Electronic Design does not disclose a larger central matrix, for example at least a four-by-four matrix.

Claim 17 has been amended to include the limitation that the contacts located in the inner region are in a four-by-four matrix. Claim 17 thus includes at least one limitation not disclosed or suggested by Electronic Design. Applicant therefore submits that claim 17 is not anticipated by Electronic Design.

Claim 30 has been amended with the limitations of claims 38 and 39. The Examiner indicated that claim 39 would be allowable if rewritten in independent form, because there is no suggestion in Electronic Design that the second plurality of contacts is located inside the outer dimensional profile of the integrated circuit, in combination with the other limitations of claim 39. Applicant, accordingly, respectfully submits that claim 30 is not anticipated by Electronic Design.

Claims 18, 21-22, 25-26, 34-35, and 38 depend from either claim 17 or claim 30, and should be allowable for at least the same reasons as claims 17 or 30

(claims 20, 24, 33, and 38 have been cancelled). Applicant, accordingly, requests withdrawal of the rejections of claims 17, 18, 21-22, 25-26, 30, 34-35, and 38 under 35 U.S.C. § 102(b) as being anticipated by Electronic Design.

#### 35 U.S.C. § 103 Rejections

The Examiner also rejected claims 29, 28 and 36 in view of various references. These claims are dependent from independent claims, and should be allowable for at least the same reasons as the independent claims. In addition, it can also be noted that claim 29 has been rejected in view of the Reference Guide, which does not qualify as prior art.

Applicant, accordingly, respectfully requests withdrawal of the rejections of claims 29, 28, and 36 in view of various references.

#### Allowable Subject Matter

The Examiner's allowance of claims 40-44 is noted with appreciation.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Stephen M. De Klerk at (408) 720-8300.

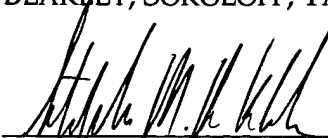
Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested

is hereby requested. Please charge any corresponding fee to Deposit Account  
No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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